Honeywell Docket No.: H0002184 US (4780)

Attorney Docket No.: 7210722001-3221000 (51-072-013)

CLAIMS

I claim:

15

- 1. A sputtering target, comprising:
 - a core material; and
- a surface material coupled to the core material, wherein the surface material comprises at least two indentations that form a collimating topography.
 - 2. The sputtering target of claim 1, wherein the core material and the surface material comprise the same chemical component.
- 3. The sputtering target of claim 2, wherein the chemical component comprises copper, aluminum, tungsten, titanium, zirconium, cobalt, aluminide, tantalum, magnesium, lithium, silicon, manganese, iron or any combination thereof.
 - 4. The sputtering target of claim 3, wherein the component comprises copper, aluminum, tungsten, titanium, zirconium, cobalt, tantalum, aluminide or a combination thereof.
 - 5. The sputtering target of claim 1, wherein the , at least two indentations comprises a macroscale modification.
 - 6. The sputtering target of claim 5, wherein the macroscale modification comprises a circular wave contour.
 - 7. The sputtering target of claim 1, wherein the at least two indentations comprises at least one microdimple.
- 20 8. The sputtering target of claim 7, wherein the at least one microdimple comprises a circular closed loop opening.
 - 9. The sputtering target of claim 7, wherein the at least one microdimple comprises a hexagonal closed loop opening.
- The sputtering target of claim 1, wherein the at least two indentations comprises a
 macroscale modification and at least one microdimple.
 - 11. A method of forming a self-collimating sputtering target, comprising:

Honeywell Docket No.: H0002184 US (4780)

Attorney Docket No.: 7210722001-3221000 (51-072-013)

providing a core material;

5

10

25

providing a surface material;

coupling the core material to the surface material to form a sputtering target; and forming at least two intentional indentations in the surface material, wherein the indentations form a collimating topography.

- 12. The method of claim 11, wherein providing the core material and providing the surface material comprise providing the same chemical component.
- 13. The method of claim 12, wherein the chemical component comprises copper, aluminum, tungsten, titanium, cobalt, aluminide, tantalum, magnesium, lithium, silicon, manganese, iron or any combination thereof.
 - 14. The method of claim 13, wherein the component comprises copper, aluminum, tungsten, titanium, cobalt, tantalum, aluminide or a combination thereof.
 - 15. The method of claim 11, wherein forming at least two intentional indentations in the surface material comprises forming a macroscale modification.
- 15 16. The method of claim 11, wherein forming at least two intentional indentations in the surface material comprises forming a circular wave contour.
 - 17. The method of claim 11, wherein forming at least two intentional indentations in the surface material comprises forming at least one microdimple.
- 18. The method of claim 17, wherein forming the at least one microdimple comprises forming a circular closed loop opening.
 - 19. The method of claim 17, wherein forming the at least one microdimple comprises forming a hexagonal closed loop opening.
 - 20. The method of claim 11, wherein forming at least two intentional indentations in the surface material comprises forming a macroscale modification and at least one microdimple.
 - 21. A method of forming a uniform film on a surface, comprising: providing a self-collimating sputtering target;

Honeywell Docket No.: H0002184 US (4780)

Attorney Docket No.: 7210722001-3221000 (51-072-013)

providing a surface;

placing the surface at a distance from the self-collimating sputtering target;

bombarding the self-collimating sputtering target with an energy source to form at least one atom; and

- 5 coating the surface with the at least one atom.
 - 22. A film formed from the sputtering target of claim 11.
 - 23. A film formed by the method of claim 21.
 - 24. A component formed by the sputtering target of claim 11.
 - 25. A component incorporating a film formed by the method of claim 21.
- 10 26. A capacitor formed by the sputtering target of claim 11.
 - 27. A capacitor incorporating a film formed by the method of claim 21.